



## Green Spring Gardens

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### Plant Information Sheet

4603 Green Spring Road • Alexandria • Virginia 22312

phone: (703) 642-5173 • fax: (703) 642-8095

[www.greenspring.org](http://www.greenspring.org)

### RECOMMENDED HARDY BULBS FOR THE WASHINGTON, D.C. AREA

Bulbs are valued for their exquisite seasonal beauty and tough nature. What we commonly refer to as bulbs are a large group of plants with underground storage organs that store energy for rapid growth when environmental conditions are favorable. These organs include true bulbs (such as tulips, daffodils, and lilies), as well as corms, tubers, tuberous roots, rhizomes, and enlarged hypocotyls. Most spring blooming and fall blooming bulbs are dormant much of the summer. Summer blooming bulbs usually have foliage throughout the growing season. Bulbs that are native to Virginia are generally not included here (see our native plant information sheets on perennials at [www.greenspring.org](http://www.greenspring.org) under Gardening for details; also available at the front desk).

**Who to Buy From and When to Plant** - Buy from nurseries that do not sell wild-collected plants. If you buy from a mail order nursery, good nurseries will ship when bulbs need to be planted in your area. Planting starts in this area in mid to late October for most bulbs. We have had tulips rot in warm, wet years when planted in mid October, so planting after the first hard frost (late October or early November) is best for tulips. Bulbs are no longer shipped after early December, so plan accordingly. There are some exceptions to fall planting – *Colchicum* is best planted by early fall before it blooms. Exceptions are noted in the comments column below and under “WINTER AND SPRING BLOOMING BULBS WITH UNUSUAL PLANTING REQUIREMENTS.”

**Planting Depth and Width** - Use the general three times rule when planting most dormant bulbs. Plant about 3 times the height of the bulb (measured from the soil surface down to the tip of the bulb). Space bulbs at least three times their width apart. Actual planting depth can vary from about 2 times to 4 times the height of the bulb – bulbs are generally not sensitive about planting depth. The pointy end should be facing up and the rooting side (basal plate here) should be at the bottom of the hole. If you are uncertain about what is the top vs. the bottom, plant the bulbs on their side. Plant bulbs in groups for the best visual impact, with shorter bulbs going in front of taller plants (the height of plants at the time of bulb bloom, not mature height).

**Light and Moisture Requirements** - Most bulbs do best year after year when planted in full sun. Bulbs suitable for light shade or part shade, especially if they get full sun in the spring until trees leaf out, are noted in the comments column. Most bulbs that go dormant in the summer prefer moist soil in the spring and/ or fall and prefer drier sites in the summer. Most

summer blooming bulbs prefer moist soils. Most bulbs need good drainage – *Camassia* is a notable exception. Water bulbs after plantings to initiate root growth if it is not raining at least ½ inch per week.

**Fertilizer is Seldom Needed** - We rarely fertilize bulbs at Green Spring because our extensive use of leaf mulch makes our soil fertile. According to the International Flower Bulb Centre in the Netherlands, bulbs prefer a fertilizer with low levels of nitrogen in the fall (e.g., 5-10-12 or 4-10-6) if fertilization is needed. Organic fertilizers or slow release fertilizers are best for the environment. If spring fertilization is needed, the Bulb Centre recommends fertilizing no later than 6 weeks before flowering (fertilizing any closer to bloom can encourage disease) or right after bloom ends. A fast-release inorganic nitrogen fertilizer can be used in the spring because actively growing plants take up nitrogen rapidly. Lightly scatter fertilizer on top of the soil - do not mix it into the planting hole because bulb injury can occur. **Alternatively, topdressing bulbs with compost or mulching with shredded leaves are excellent ways for organic gardeners to increase soil fertility.**

**Let Foliage Die Naturally** - Cut only a little foliage back here and there if plants are flopping on other plants because you do not want to reduce the vigor of your bulbs. Bulbs continue to produce food after they are done blooming, until the foliage goes dormant. Miniature bulbs have less dying foliage to look at, so use them if you like bulbs but not the look of spent foliage in May, June, and/ or early July. Planting perennials and tender plants around bulbs can help to hide their foliage as they go dormant.

**Divide Bulbs If They Get Crowded After Several Years** - This is an issue with some bulbs, such as many daffodils. They can be dug up from about the time they go dormant (late June/ early July) through fall. It is better to do this task earlier rather than later because they are not actively growing in the summer and you will cause less damage. Separate the bulbs from each other, then replant at a wider spacing and in new areas.

The following is a list of hardy bulbs that perform well in the Washington, D.C. area. For information about tender bulbs for our area, see **Recommended Annuals, Biennials, Tender Perennials, and Tender Bulbs For Gardens In The Washington, D.C. Area** at [www.greenspring.org](http://www.greenspring.org) under Gardening or at the front desk.

### Winter and Spring Blooming Bulbs

Scientific Name	Common Name	Comments
<i>Allium hollandicum</i> ( <i>aflatunense</i> ) 'Purple Sensation' <i>A. christophii</i>	Ornamental Onion	<i>A. gigantea</i> , <i>A. 'Gladiator'</i> , <i>A. 'Lucy Ball'</i> , & <i>A. schubertii</i> have beautiful lilac or purple flowers but decline over time – 'Purple Sensation' is a much better plant (& less expensive); late spring bloom
<i>Bletilla striata</i>	Chinese Ground Orchid	Moist, rich sites in light to part shade; late spring bloom; usually have foliage the entire growing season

<b><i>Camassia cusickii</i></b> <b><i>C. leichtlinii</i> ('Blue Danube')</b> (native <i>C. scilloides</i> is much harder to grow & seldom available)	Camas	Tolerate light shade; prefer moist soils & tolerate heavier soils than most bulbs; late spring bloom
<b><i>Chionodoxa forbesii</i> (some botanists classify as <i>C. siehei</i>)</b> <b><i>C. 'Pink Giant'</i> (commonly sold as <i>C. forbesii</i> 'Pink Giant' but possibly a hybrid or <i>C. siehei</i>)</b> <b><i>C. sardensis</i></b>	Glory of the Snow	Tolerate light shade; we have not planted bulbs sold as <i>C. lucilliae</i> at Green Spring in the past but are testing them beginning this fall
<b><i>Crocus flavus</i> ('Golden Yellow')</b> <b><i>C. tommasinianus</i> &amp; cultivars</b> <b><i>C. vernus</i> &amp; cultivars</b> ( <i>C. chrysanthus</i> & <i>C. sieberi</i> cultivars generally have a shorter life here)	Crocus	Tolerate light shade. Loved by rabbits, squirrels, voles, & deer so can be difficult to grow well. <i>C. minimus</i> grows in our rock garden & is less vigorous than the 3 recommended species. <i>C. speciosus</i> blooms in the fall – not as vigorous or long lived as the recommended spring-blooming plants (fall-blooming <i>C. sativus</i> , the saffron crocus, is even less reliable here).
<b><i>Erythronium</i> 'Pagoda'</b>	Pagoda Trout Lily	Tolerates light shade; native <i>E. americanum</i> is often hard to get to bloom in gardens
<b><i>Hyacinthus orientalis</i> cultivars</b>	Hyacinth	Fragrant; after the first year or so flowers often get smaller & look more like wild type (an organic mulch, such as leaf mulch, can help to increase flower size)
<b><i>Ipheion uniflorum</i> ('Rolf Fiedler')</b>	Star Flower	Tolerates light shade
<b>*<i>Iris bucharica</i></b> <b>*Reticulata Group cultivars such as 'Edward', 'Harmony', &amp; 'J.S. Dijt' (<i>I. reticulata</i>, <i>I. histrioides</i>, &amp; other species are the parents)</b> <b>*<i>I. histrioides</i> hybrids like 'George' (sterile)</b>	Bulbous Iris	<i>I. bucharica</i> & sterile hybrids like 'George' are the most reliable bloomers over time; tolerate light shade
<b><i>Leucojum aestivum</i> ('Gravetye Giant' or 'Gravetye')</b>	Giant Snowflake (also called Summer Snowflake but spring bloomer)	Tolerates light to part shade; resistant to deer, rabbits, & voles

<p><b><i>Muscari armeniacum</i></b>  <b>(‘Christmas Pearl’)</b>          (‘Blue Spike’ died out at Green Spring after a few years; still testing ‘Valerie Finnis’)</p>		<p>Tolerate light shade.  <i>M. latifolium</i> is a gorgeous blackish purple – not as vigorous but some bloom over time.  <i>M. botryoides</i> is turning up on some regional invasive lists so avoid.</p>
<p><b><i>Narcissus:</i></b>          My favorite divisions of regular-sized daffodils with some good performers mentioned:  <b>Division 1</b> (trumpet; longest cup) – some that have performed well locally include ‘Las Vegas’ &amp; ‘Spellbinder’  <b>Division 2</b> (long cup) – many great performers locally including ‘Accent’, ‘Avalon’, ‘Ice Follies’, ‘Louise de Coligny’ (fragrant), &amp; ‘Saint Keverne’  <b>Division 3</b> (small cup) - see miniature section  <b>Division 5</b> (triandrus- blooms that hang like bells, usually 2 or more blooms/ stem) – ‘Ice Wings’, ‘Petrel’, ‘Stint’, &amp; ‘Thalia’  <b>Division 6</b> (cyclamineus - windswept appearance, flower hangs its head, one bloom per stem) – ‘February Gold’ (one of earliest to bloom), ‘Jetfire’, ‘Surfside’, &amp; ‘The Alliance’  <b>Division 7</b> (jonquilla - small flowers w/ flat petals, 1 to 3 flowers/ stem, most are fragrant, foliage is narrow &amp; reed-like) – ‘Hillstar’, ‘Fruit Cup’, ‘Pipit’, &amp; ‘Quail’  <b>Division 8</b> (tazetta; clusters of florets [usually more than 3] on a broad stem, fragrant) - ‘Avalanche’ &amp; ‘Geranium’ (full sun needed; leaves emerge in fall so can be tired looking by spring)</p>	<p>Daffodil</p>	<p>Some cultivars can take light shade – ‘Bulley’, ‘Hillstar’, ‘Ice Follies’, ‘Las Vegas’, ‘Sorbet’, &amp; ‘Virginia Sunrise’ have bloomed well at Green Spring in light shade. Brent &amp; Becky’s Bulbs also list Division 6 or cyclamineus daffodils as tolerant of some shade. Most species &amp; cultivars need full sun, especially in the spring, or they will not bloom well after the first year.</p> <p><b>A Daffodil Division I Don’t Like As Well Because of Bred Up Look (not as natural looking but have performed well):</b>  <b>Division 4</b> (double – clustered cups &amp; petals) – ‘Yellow Cheerfulness’ &amp; ‘Obdam’</p> <p><b>We have also found that some cultivars in various divisions die off in our area over a few years even with good growing conditions:</b>          ‘Jack Snipe’, ‘Mount Hood’, &amp; ‘Tracey’ are in this category.</p>

<p><b><i>Narcissus</i> (regular-sized daffodils continued):</b></p> <p><b>Division 9</b> (poeticus – extremely white petals, cup is small crinkled disc, most often green in center, then yellow w/ red rim, usually one fragrant flower/ stem) – ‘Actaea’</p> <p><b>Division 11</b> (split corona – cup split at least 1/3 of length) – ‘Cassata’, ‘Papillon Blanc’, &amp; ‘Sorbet’</p> <p><b>Division 12</b> (other daffodils – many are inter-division hybrids) – see miniature section</p> <p><b>Division 13</b> (wild, natural flowers – botanical name). Usually not as tough as other divisions. <i>N. odoratus</i> (x <i>odoratus</i> is older name; campernelle daffodil) &amp; ‘Plenus’ (both fragrant) have only been happy at Green Spring for one season in very dry soils – have performed better in moist soils (moist in spring &amp; drier in summer). <i>N. pseudonarcissus</i> subsp. <i>obvallaris</i> needs full sun &amp; good drainage to do well.</p>	Daffodil	See American Daffodil Society for more details.
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<p><b>Narcissus: Miniatures or Division 14</b> (Brent &amp; Becky's Bulbs use Division 14 in their catalog – not used in American Daffodil Society website but listed). Smaller blooms than larger cultivars in their original division, as well as shorter in height (about 6 inches):</p> <p><b>*Miniatures from Division 1:</b> 'Little Beauty', 'Little Gem', 'Topolino', &amp; 'W.P. Milner'</p> <p><b>*Miniature from Division 3:</b> 'Segovia'</p> <p><b>*Miniature from Division 5:</b> 'Hawera'</p> <p><b>*Miniature from Division 6:</b> 'Mite'</p> <p><b>*Miniatures from Division 7:</b> 'Baby Moon' (fragrant), 'Chit Chat', &amp; 'Sun Disc' (fragrant)</p> <p><b>*Miniatures from Division 8:</b> 'Minnow' &amp; 'Canaliculatus' (both fragrant)</p> <p><b>*Miniatures from Division 12:</b> Golden Quince®, 'Jumblie', &amp; 'Tête-à-Tête'; <i>N. bulbocodium</i> hybrid 'Golden Bells' (also see listed under Division 10) is supposedly more reliable than the species – we have grown it one year.</p> <p><b>Miniature from Division 13:</b> <i>N. bulbocodium</i> var. <i>conspicuous</i> – thins out where you planted it but pops up here &amp; there.</p>	Miniature Daffodil	
<b>Nectaroscordum siculum</b> subsp. <i>bulgaricum</i> (old name <i>Allium bulgaricum</i> )	<b>Sicilian Honey Garlic</b>	Much showier than the garlic we eat – flowers aren't even similar! Late spring bloomer.
<b>Puschkinia scilloides</b> (also see under the name var. <i>libanotica</i> )	<b>Striped Squill</b>	Tolerates light shade
<p><b>Scilla bifolia</b> ('Rosea' is easier to grow than the species)</p> <p><b>S. mischtschenkoana</b> ('Tubergeniana')</p> <p><b>S. siberica</b> ('Alba' &amp; 'Spring Beauty')</p>	<b>Scilla</b>	Tolerate light shade; <i>Scilla scilloides</i> is a late summer/early fall bloomer – lovely in our rock garden but can be hard to establish & expensive (also a short bloom period).

<p><b><i>Tulipa</i></b> – Species tulips &amp; their cultivars - wild, natural flowers mostly found in countries from Crete &amp; Turkey to central Asia (e.g., Afghanistan) for species listed here. My favorite group because small &amp; often longer-lived. Longer-lived ones here include <i>T. saxatilis (bakeri)</i> ‘Lilac Wonder’, <i>T. clusiana</i> &amp; cultivars (‘Chrysantha’, ‘Cynthia’, &amp; ‘Tubergen’s Gem’), <i>T. kaufmanniana</i> (sold as ‘Waterlily’ sometimes but not a true cultivar; ‘Shakespeare’ of the Kaufmanniana division has rebloomed for several years), &amp; <i>T. turkestanica</i>. Many like <i>T. batalini</i> ‘Apricot Jewel’ [some classify under <i>T. linifolia</i> (Batalinii group)], <i>T. ‘Little Beauty’</i> &amp; <i>T. humilis</i> are gorgeous but not quite as long-lived.</p>	<p>Tulip</p> <p>(There are 15 divisions of tulips. In addition to species tulips, my favorites divisions includes Darwin hybrids, single early, triumph, lily-flowered, &amp; single late tulips. A Gregii tulip that has bloomed at Green Spring for years is ‘Sweet Lady’, &amp; the Darwin hybrid ‘Daydream’ has bloomed for years at my home. Of the large-flowered tulips, Darwin hybrids are generally the longest lived.)</p>	<p>Loved by rabbits, squirrels, voles, &amp; deer so often hard to grow. Can cover w/ plastic bird netting to protect but often eat plants when you uncover them just before bloom. Have had success using pea gravel as a mulch in rock gardens to keep rodents away. Prefer lighter soils that are rather dry in the summer (species tulips are great in rock gardens). The only spring bulb that benefits from deadheading - uses up to 30% of their energy making seeds (no seeding around for the species-types if deadhead, but I haven’t seen much reseeding here except a small amount by <i>T. clusiana</i>).</p> <p><b>It is best to think of many tulips as annuals in our climate</b> - we don’t have the long, cool, moist spring &amp; the dry summers they need to do best. Most of them gradually died off, &amp; the surviving plants decline in bloom over time.</p>
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#### WINTER AND SPRING BLOOMING BULBS WITH UNUSUAL PLANTING REQUIREMENTS

Scientific Name	Common Name	Comments
<b><i>Anemone blanda</i></b>	Windflower	Few often come up because best to plant when not dried out; have tried to soak them before planting with some success; tolerates light shade
<b><i>Eranthis hyemalis</i></b> ( <i>E. cilicia</i> is a similar species but it hasn’t reseeded or increased in size for us)	Winter Aconite (very early bloom)	Few often come up because best to plant when not dried out; have tried to soak them before planting with some success; tolerates light to part shade; reseeds so eventually get nice sized clumps

<b><i>Galanthus nivalis</i></b> (ones with less vigor but still long-lived are ' <b>Flore Pleno</b> ' & <b><i>G. elwesii</i></b> )	Snowdrops ( <i>G. nivalis</i> is the earliest bloomer - sometimes even starts in late fall)	Best to move when foliage is still actively growing (can divide & give to your friends); lower success rate when buy as dried bulbs; Brent & Becky's Bulbs say best when planted by early fall; tolerate light to part shade
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### SUMMER BLOOMING BULBS (USUALLY HAVE FOLIAGE THE ENTIRE GROWING SEASON)

Scientific Name	Common Name	Comments
<b><i>Allium</i> 'Constellation'</b> <b><i>A. stellatum</i></b> (native to TN & Midwestern states – blooms into October in some sites)	Constellation Onion Prairie Onion	Great for rock gardens; tolerate dry sites. <i>A. sphaerocephalum</i> – a showy flower but often doesn't bloom well after the first year or two, & has foliage that looks very similar to invasive wild garlic.
<b><i>Amarcrinum x memoria-corsii</i></b> (some older references call <b><i>X Amarcrinum memoria-corsii</i></b> ) ('Fred Howard')	Amarcrinum	Large bulb that needs adequate space - slightly smaller space than <i>Crinum</i> ; tolerates light shade; best to mulch deeply in late November (until late March or early April) for winter protection; blooms into fall
<b><i>Crocasmia</i> 'Lucifer'</b>	Lucifer Crocasmia	Many other cultivars bloom poorly here, especially over time
<b><i>Crinum x powellii</i></b>	Crinum	Large bulb that needs a large space; tolerates heavy, moist soils; best to mulch deeply in late November (until late March or early April) for winter protection
<b><i>Eucomis (comosa)</i> 'Sparkling Burgundy' &amp; other species &amp; hybrids</b>	Pineapple Lily	May want to mulch deeply in late November (until late March or early April) for winter protection – but most of our unmulched plants have survived many winters; drought tolerant although like moist soils best
<b><i>Galtonia candicans</i></b>	Summer Hyacinth, Cape Hyacinth	White, bell-like flowers – does not look like a hyacinth!



<p><b><i>Lilium:</i></b>  <b>*<i>L. davidi</i> (<i>L. henryi</i> is also a beautiful orange but is floppier, as are its hybrids).</b>  <b>*<i>L. formosanum</i></b>  <b>*<i>L. regale</i>, shorter hybrids like ‘George C. Creelman’, &amp; taller Trumpet / Aurelian Hybrids (many are fragrant).</b>  <b>*Oriental lilies including <i>L. speciosum</i> &amp; hybrids like ‘Casa Blanca’, ‘Colonna’, ‘San Souci’, &amp; ‘Star Gazer’ (fragrant).</b>  <b>*Asiatic Lily Hybrids such as ‘Citronella’, ‘Montreux’, ‘Tiger Babies’, &amp; ‘Vivaldi’.</b>  <b>*Orienpet Hybrids - Oriental lilies crossed with Trumpet / Aurelian Hybrids to get cultivars such as ‘Arabesque’ (this cv. is tall but doesn’t need staking).</b></p>	Lily	<p>See North American Lily Society for more details. Many are drought tolerant although prefer moist soil.</p> <p>Trumpet/Aurelian Hybrids grow well but are often very tall &amp; floppy, so look best if staked.</p> <p>Not all lilies are easy to grow here. For example, martagon lilies are touchy in our area – like rich soil &amp; cooler weather. Lilies in general also loved by deer, rabbits, and voles.</p> <p><i>Lilium formosanum</i> is susceptible to lily mosaic, a virus, although we have not seen it at Green Spring.</p>
<b><i>Lycoris squamigera</i></b>	Naked Ladies, Surprise Lily, Resurrection Lily,	Tolerates light shade, especially if get full sun in the spring. Flowers bloom in August long after foliage has gone dormant – a “naked lady!”

### Fall Blooming Bulbs

Scientific Name	Common Name	Comments
<b><i>Colchicum autumnale</i></b> <b><i>C. byzantinum</i></b> <b><i>C. ‘The Giant’</i></b> <b><i>C. ‘Waterlily’</i></b>	Colchicum	Ship by early fall – best to plant before they bloom (can plant when blooming but lower survival rate); poisonous so not bothered by animals like <i>Crocus</i> is; tolerate light shade
<b><i>Cyclamen hederifolium</i></b>	Cyclamen	Tolerates light to part shade; <i>C. coum</i> is beautiful but has not done well for us
<b><i>Lycoris radiata</i></b>	Red Spider Lily	Can be borderline hardy in some areas – Zone 7 plant; tolerates light shade; plant in the summer before it blooms; sometimes does not flower every year but gorgeous when it does

<b><i>Schizostylis coccinea</i> ('Mrs. Hegarty' &amp; 'Oregon Sunset' have performed best)</b>	Kaffir Lily	Latest bloom of all – into November (foliage present entire growing season)
<b><i>Sternbergia lutea</i></b>	Sternbergia	Best to ship them right after they are dug in June & best to plant as soon as they arrive (we have also successfully planted in early fall); tolerates light shade

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Developed by Brenda Skarphol, Curatorial Horticulturist at Green Spring Gardens  
10/2005 (Bulbs – hardy)